

Students taking Advanced Placement (AP) examinations

Participation in the Advanced Placement (AP) program is associated with a demanding academic curriculum and illustrates the desire of schools, colleges, and universities to offer college-level courses in high school. By participating in the AP program, high school students may acquire college credit for their knowledge of college-level subjects. Measuring the number of students who participated in AP examinations per 1,000 11th- and 12th-grade students each year suggests the level of importance students, schools, and colleges place on the AP program and how that importance has changed over time.

- Between 1984 and 1995, the number of students taking AP examinations increased dramatically, rising from 24 students per 1,000 11th- and 12th-grade students to 66 students per 1,000. The number of examinees increased for both sexes and all racial/ethnic groups during this period.
- In 1984, similar numbers of males and females (per 1,000 11th- and 12th-grade students) took AP examinations. Between 1984 and 1995, the number of females who took the exams (per 1,000 11th- and 12th-grade students) rose at a faster rate than did the number of males who took AP examinations. In 1995, 74 females per 1,000 11th- and 12th-grade female students took the exams, compared to 58 males per 1,000 11th- and 12th-grade male students.
- In 1995, females were more likely to take AP examinations in social studies subjects, English, and foreign language than were their male counterparts, who were slightly more likely to take examinations in calculus and science subjects.
- Whites were both more likely to take exams and to score 3 or higher on a social studies subject, English, calculus, and science subject AP examinations than were blacks or Hispanics.

Number of students who took AP examinations (per 1,000 11th- and 12th-grade students), by sex and race/ethnicity: 1984–95

Sex and race/ethnicity	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	24	29	33	36	39	44	48	53	57	62	60	66
Sex												
Male	24	29	33	35	38	42	46	51	53	56	53	58
Female	25	29	33	37	40	47	51	56	62	68	68	74
Race/ethnicity												
White	23	29	32	34	40	45	48	54	58	61	60	65
Black	4	5	6	8	9	11	13	15	14	16	14	18
Hispanic	10	14	14	17	22	31	32	32	37	40	34	42

Number of AP examinations taken and the number of examinations with scores of 3 or higher (per 1,000 11th- and 12th-grade students), by subject area, sex, and race/ethnicity: 1995

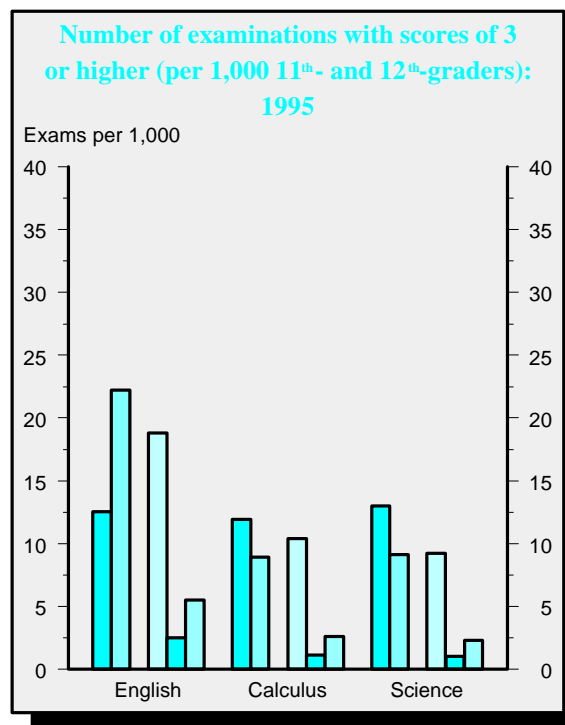
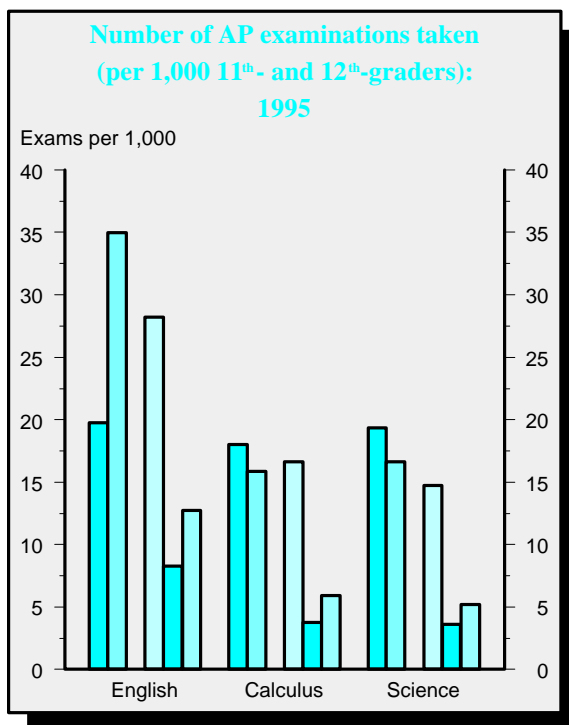
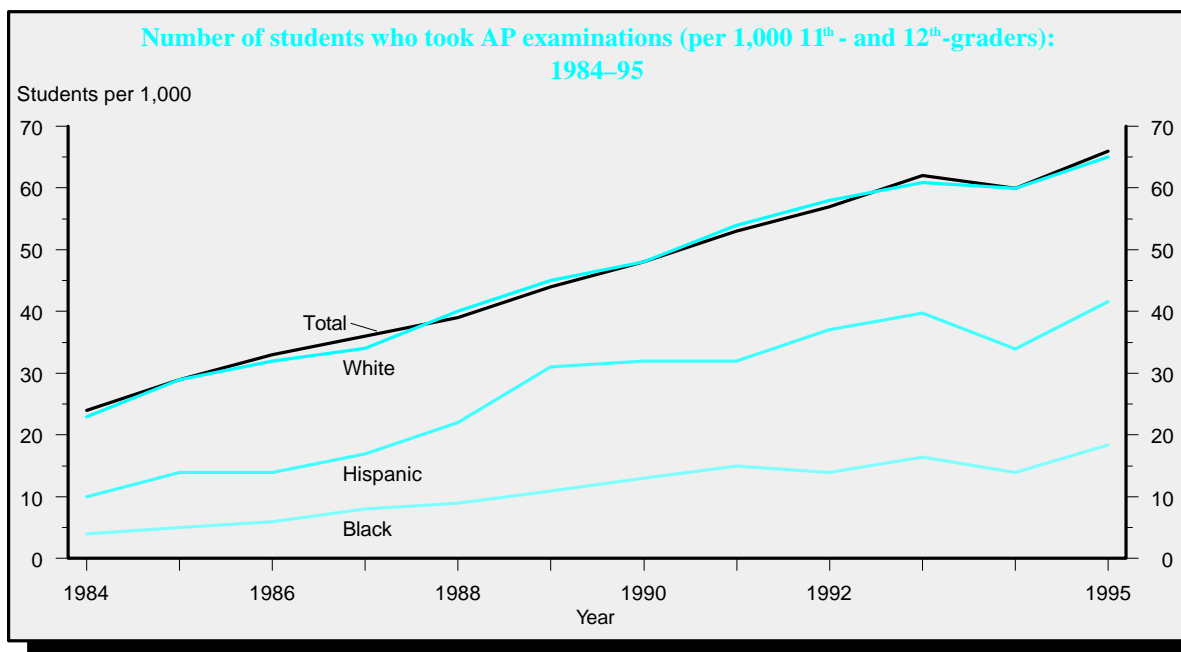
Sex and race/ethnicity	Number of AP examinations taken						Number of examinations with scores of 3 or higher					
	Social studies	English	Foreign language	Calculus	Computer science	Science	Social studies	English	Foreign language	Calculus	Computer science	Science
Total	32	27	9	17	2	18	18	17	6	10	1	11
Sex												
Male	29	20	6	18	1	19	18	13	4	12	1	13
Female	34	35	11	16	0	17	18	22	8	9	0	9
Race/ethnicity												
White	32	28	6	17	1	15	19	19	4	10	1	9
Black	8	8	1	4	0	4	3	3	1	1	0	1
Hispanic	14	13	23	6	1	5	6	6	21	3	0	2

NOTE: Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations. See the supplemental note to this indicator for a description of AP course categories and a discussion of the calculations for this analysis. Analysis includes a small number of college students

who took the exams (2 percent of all candidates in 1995).

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Student participation in AP examinations



■ Male ■ Female ■ White ■ Black ■ Hispanic

NOTE: Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations. See the supplemental note to this indicator for a description of AP course categories and a discussion of the calculations for this analysis. Analysis includes a small number of college students who took the exams (2 percent of all candidates in 1995).

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Note to Indicator 25: Advanced Placement examinations

The Advanced Placement (AP) examinations are offered to high school students annually to give them an opportunity to demonstrate college-level achievement. Although students who have not studied extensively beyond the normal secondary school level are not advised to take these examinations, the AP program is open to all students. Most high school students take the examinations voluntarily; however, several states have legislation that supports and encourages participation in the AP program.

In this analysis, the number of students who took AP examinations and the number of examinations taken by these students were compared to 1,000 11th- and 12th-grade students, as defined by the October Supplement to the Current Population Survey (CPS). Data from the CPS include both public and private schools. This methodology differs somewhat from the methodology shown in *The National Education Goals Report, 1995*, which calculated enrollment figures based on the Common Core of Data (CCD). The CCD does not include data from private schools. Consequently, to produce private school enrollment data, the public school figures in the *Goals Report* were multiplied by a private school enrollment adjustment factor. As a result, data shown in this analysis are not directly comparable to data found in the *Goals Report*.

Subject definitions

The following are the specific subjects that comprise the AP examination subject areas presented in this analysis:

Social studies	U.S. History, European History, U.S. Government and Politics, Comparative Government and Politics, and Psychology;
English	English Language and Composition, and English Literature and Composition;
Foreign language	French Language, French Literature, German Language, Latin/Virgil, Latin Literature, Spanish Language, and Spanish Literature;
Calculus	Calculus AB and Calculus BC;
Computer science	Computer Science A and Computer Science AB; and

Science

Biology, Chemistry, Physics A, Physics B (mechanical), and Physics C (electricity and magnetism).

Examinations

Most of the AP examinations contain multiple choice and free-response sections. The examinations are graded based on scores from both types of responses. The program's examinations are criterion-referenced not normed-referenced, with cut scores established at five different points along these scales to designate a grade of 5, 4, 3, 2, or 1 (grade of 5: extremely well qualified; grade of 4: well qualified; grade of 3: qualified; grade of 2: possibly qualified; and grade of 1: no recommendation). The grades are determined by the chief readers who rely on their subject matter expertise, statistical equating data, and data from comparability studies. Cut scores frequently vary from year to year for each examination, reflecting changes in the level of exam difficulty. Therefore, the College Board does not recommend the use of grade data for trend analysis. Grades of 3 and above are usually accepted for college credit and advanced placement at participating colleges and universities, although credit varies among institutions. Descriptions of the AP examinations for these various subject areas are provided below.

Biology: A 3-hour examination on a college full-year introduction to biology: 90 minutes of multiple-choice questions, 90 minutes of selected problems, short essays, and chemical reactions.

Chemistry: A 3-hour examination on a college full-year introduction to chemistry: 90 minutes of multiple-choice questions and 90 minutes of selected problems, short essays, and chemical reactions.

Computer Science: Two examinations: Computer Science A (75 minutes of multiple-choice questions, 105 minutes of free-response questions), a college first-semester introduction to Computer Science (programming, methodology, programming in Pascal including recursion, data structures not including pointers, applications), and Computer Science AB (75 minutes of multiple-choice questions, 105 minutes of free-response questions), a college full-year introduction to Computer Science (programming methodology, programming in Pascal, algorithms, data structures). The Computer Science AB examinations no longer include a sepa-

rate grade report for the Computer Science A examination.

English: Two 180-minute examinations: English Language and Composition, and English Literature and Composition. Each examination covers a college full-year introductory English course. Both are 60 minutes of multiple-choice questions and 120 minutes of free-response questions. Candidates may take either or both examinations.

French: Two examinations, one on each of two college third-year courses: French Language (80–95 minutes of multiple-choice questions on listening and reading and 55–70 minutes of free-response writing and speaking); and French Literature (80–95 minutes of multiple-choice questions on literary passages, 35–50 minutes on one or more required works, and a 35–50 minute analysis of a presented text from the required reading list). Candidates may take either or both examinations.

German: A 3-hour examination on a college third-year German Language course: 110 minutes of multiple-choice questions on listening and reading and 70 minutes of free-response writing and speaking.

Government and Politics: Two 120-minute examinations (45 minutes of multiple-choice questions and 75 minutes of free-response questions) on each of two single-semester introductory college courses on government and politics: comparative and United States. Candidates may take either or both examinations.

History, European: A 3-hour examination on a college full-year introduction to European history in its global context from c. 1450 through 1970: 60–90 minutes of multiple-choice questions, a 15-minute reading period, a 30–50 minute exercise on the use of historical evidence, and one 40–60 minute essay chosen from several offered.

History, United States: A 3-hour examination on a college full-year introduction to United States history from colonial times to the present: 60–90 minutes of multiple-choice questions, a 15-minute reading period, a 30–50 minute exercise on the use of historical evidence, and a 40–60 minute selected essay.

Latin: Two 2-hour examinations on college middle-level Latin courses (Virgil and Catullus–Horace): each has 40–55 minutes of multiple-choice questions on Latin sight reading (common to both examinations) and 65–80 minutes of brief essays on required reading. Candidates may take either or both examinations.

Mathematics: Two 3-hour examinations, one on each of two college full-year mathematics courses: Calculus AB (introductory differential and integral calculus) and Calculus BC (extending one semester beyond AB and including advanced topics in integral calculus and sequences and series). Each examination has a 90-minute multiple-choice section and a 90 minute free-response section. A scientific, nonprogrammable, nongraphing calculator is required for each examination. Candidates may take only one examination.

Physics: Three examinations: Physics B, a 3-hour examination (half multiple-choice questions, half free-response questions) covering a college full-year, non-calculus course on general physics; Physics C (Mechanics); and Physics C (Electricity and Magnetism): two 90-minute examinations (half multiple-choice questions, half free-response questions) on each of two college semesters of introductory physics with calculus. Candidates may take either Physics B or C, not both.

Psychology: A 2-hour examination on a college one-semester introduction to psychology: a 75 minute free-response section consisting of two mandatory questions.

Spanish: Two examinations, one on each of two college third-year Spanish courses: Spanish Language (90 minutes of multiple-choice questions on listening comprehension, vocabulary, structure, and reading comprehension and 75–85 minutes of free-response writing and speaking); and Spanish literature (80 minutes of multiple-choice questions on listening comprehension, reading comprehension, and literary analysis, and 100 minutes of free-response essays on required authors and poetry analysis). Candidates may take either or both examinations.

SOURCE: The College Board, *A Guide to the Advanced Placement Program*, 1992.

Table 25-1 Number of participants in the AP program, by schools, candidates, examinations, colleges, candidates per school, examinations per candidate, and candidates per college: 1956–96

Year	Secondary schools	Candidates	Examinations	Colleges	Candidates per secondary school	Exams per candidate	Candidates per college
1956	104	1,229	2,199	130	11.8	1.8	9.5
1957	212	2,068	3,772	201	9.8	1.8	10.3
1958	355	3,715	6,800	279	10.5	1.8	13.3
1959	560	5,862	8,265	391	10.5	1.4	15.0
1960	890	10,531	14,158	567	11.8	1.3	18.6
1961	1,126	13,283	17,603	617	11.8	1.3	21.5
1962	1,358	16,255	21,451	683	12.0	1.3	23.8
1963	1,681	21,769	28,762	765	13.0	1.3	28.5
1964	2,086	28,874	37,829	888	13.8	1.3	32.5
1965	2,369	34,278	45,110	994	14.5	1.3	34.5
1966	2,518	38,178	50,104	1,076	15.2	1.3	35.5
1967	2,746	42,383	54,812	1,133	15.4	1.3	37.4
1968	2,863	46,917	60,674	1,193	16.4	1.3	39.3
1969	3,095	53,363	69,418	1,288	17.2	1.3	41.4
1970	3,186	55,442	71,495	1,368	17.4	1.3	40.5
1971	3,342	57,850	74,409	1,382	17.3	1.3	41.9
1972	3,397	58,828	75,199	1,483	17.3	1.3	39.7
1973	3,240	54,778	70,651	1,437	16.9	1.3	38.1
1974	3,357	60,863	79,036	1,507	18.1	1.3	40.4
1975	3,498	65,635	85,786	1,517	18.8	1.3	43.3
1976	3,937	75,651	98,898	1,580	19.2	1.3	47.9
1977	4,079	82,728	108,870	1,672	20.3	1.3	49.5
1978	4,323	93,313	122,561	1,735	21.6	1.3	53.8
1979	4,585	106,052	139,544	1,795	23.1	1.3	59.1
1980	4,950	119,918	160,214	1,868	24.2	1.3	64.2
1981	5,253	133,702	178,159	1,955	25.5	1.3	68.4
1982	5,525	141,626	188,933	1,976	25.6	1.3	71.7
1983	5,827	157,973	211,160	2,130	27.1	1.3	74.2
1984	6,273	177,406	239,666	2,153	28.3	1.4	82.4
1985	6,720	205,650	280,972	2,170	30.6	1.4	94.8
1986	7,201	231,378	319,224	2,125	32.1	1.4	108.9
1987	7,776	262,081	369,207	2,197	33.7	1.4	119.3
1988	8,247	292,164	424,844	2,184	35.4	1.5	133.8
1989	8,768	314,686	463,664	2,256	35.9	1.5	139.5
1990	9,292	330,080	490,299	2,537	35.5	1.5	130.1
1991	9,786	359,122	535,191	2,587	36.7	1.5	138.8
1992	10,191	378,692	566,036	2,722	37.2	1.5	139.1
1993	10,594	413,939	623,933	2,825	39.1	1.5	146.5
1994	10,863	447,972	684,449	2,823	41.2	1.5	158.7
1995	11,274	493,263	767,881	2,875	43.8	1.6	171.6
1996	11,712	525,072	824,329	2,895	44.8	1.6	181.4

SOURCE: The College Board, Advanced Placement Program, *Statistical Tables 1995–96* and *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.).

**Number of students who took AP examinations (per 1,000 11th- and 12th-grade students),
by sex and race/ethnicity: 1984–95**

Sex and												
race/ethnicity	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	24	29	33	36	39	44	48	53	57	62	60	66
Sex												
Male	24	29	33	35	38	42	46	51	53	56	53	58
Female	25	29	33	37	40	47	51	56	62	68	68	74
Race/ethnicity												
White	23	29	32	34	40	45	48	54	58	61	60	65
Black	4	5	6	8	9	11	13	15	14	16	14	18
Hispanic	10	14	14	17	22	31	32	32	37	40	34	42

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Number of AP examinations taken and the number of examinations with scores of 3 or higher (per 1,000 11th- and 12th-grade students), by subject area, sex, and race/ethnicity: 1995

Sex and race/ethnicity	Number of AP examinations taken						Number of examinations with scores of 3 or higher					
	Social studies	English	Foreign language	Calculus	Computer science	Science	Social studies	English	Foreign language	Calculus	Computer science	Science
Total	32	27	9	17	2	18	18	17	6	10	1	11
Sex												
Male	29	20	6	18	1	19	18	13	4	12	1	13
Female	34	35	11	16	0	17	18	22	8	9	0	9
Race/ethnicity												
White	32	28	6	17	1	15	19	19	4	10	1	9
Black	8	8	1	4	0	4	3	3	1	1	0	1
Hispanic	14	13	23	6	1	5	6	6	21	3	0	2

NOTE: Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations.

See the supplemental note to this indicator for a description of AP course categories and a discussion of the calculations for this analysis. Analysis includes a small number college students who took the exams (2 percent of all candidates in 1995).

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.